

Claims

1. A flocculant made from a silicon colloidal solution for gelation through dilution and flocculating suspended matter in conjunction with the gelation.
2. The flocculant mentioned in Claim 1, wherein said silicon colloidal solution is made by dissolving a silicon-containing substance provided with acid solubility by mixing a silicon-containing substance with an alkaline substance, and heat treating the result at a temperature below the melting point of said silicon-containing substance in an acid solvent.
3. The flocculant mentioned in Claim 2 wherein the above-mentioned alkaline substance is calcium carbonate or lime.
4. The flocculant mentioned in Claim 2 or 3 wherein said acid solvent is diluted hydrochloric acid.
5. The flocculant mentioned in any of Claims 2 to 4, wherein said acid solvent contains one, two, or more gelation suppressant selected from an acetic acid, ammonium acetate, and ammonium chloride group.
6. The flocculant mentioned in any of Claims 2 to 5, wherein said silicon-containing substance contains iron or aluminum.
7. The flocculant mentioned in any of Claims 1 to 6, wherein the pH value is 2 to 3.
8. A manufacturing method for a flocculant made from a silicon-containing substance generation means for mixing a silicon-containing substance and an alkaline substance and heat treating the result at a temperature lower than the melting temperature of said silicon-containing substance to generate an acid soluble silicon-containing substance, an acid solvent generation means for generating a solvent made from an acid solution, and a silicon colloidal solution generation means for dissolving said acid solvent in

said silicon-containing substance to generate a silicon colloidal solution.

9. The manufacturing method for a flocculant mentioned in Claim 8 wherein said alkaline substance is made from calcium carbonate or lime.

10. The manufacturing method for a flocculant mentioned in Claim 8 or Claim 9, wherein said acid solvent generation means comprises a means for diluting hydrochloric acid to generate an acid solvent.

11. The manufacturing method for a flocculant mentioned in any of Claims 8 to 10, wherein said acid solvent generation means includes means for mixing one, two, or more gelation suppressants selected from said an acetic acid, ammonium acetate, and ammonium chloride group with said acid solution.

12. The manufacturing method for a flocculant mentioned in any of Claims 8 to 11, wherein a filtering means is added for filtering said silicon colloidal solution to remove undissolved suspended matter.

13. The manufacturing method for a flocculant mentioned in any of Claims 8 to 12, wherein an aggregating means is added for adding gypsum to said silicon colloidal solution to cause undissolved suspended matter to aggregate.

14. The manufacturing method for a flocculant mentioned in any of Claims 8 to 13, wherein a pH adjustment means is added to add iron or aluminum to said silicon colloidal solution to adjust the pH value of said silicon colloidal solution.

15. A flocculation method for mixing the flocculant mentioned in any of Claims 1 to 7 with a suspension to flocculate suspended matter.

16. The flocculation method mentioned in Claim 15, wherein a means is added for further mixing an alkaline substance in a suspension.